

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) An apparatus for continuous casting of molten metals, the molten metal being continuously cast using a casting mold, said apparatus comprising:

electromagnets each comprising an iron core and a coil  
~~plural coils~~ wound over said iron core,

said electromagnets being arranged in a facing relation on opposite sides of said mold along a transverse width thereof to lie side by side along a longitudinal width of said mold; and

a single-phase AC current power supply connected to each coil ~~for supplying~~ to supply a single-phase AC current to each coil,

wherein each pair of the electromagnets lying side by side next to each other have a phase difference of 0° or 180°.

2. (original) The apparatus according to claim 1, wherein said iron core comprises individual single iron cores separate from each other, or a comb-shaped iron core having a comb-teeth portion over which the coils are wound.

3. (original) The apparatus according to claim 1, wherein said iron core comprises a comb-shaped iron core having a comb-teeth portion over which said coils are wound and a root portion over which a second coil is wound, and further comprising a means for supplying a DC current to the second coil.

4. (currently amended) An apparatus for continuous casting of molten metals, the molten metal being continuously cast using a casting mold, said apparatus comprising:

a coil supplied with a DC current for producing a DC magnetic field and plural coils supplied with a single-phase AC current for producing a non-moving, vibrating magnetic field, both said coils being wound over each of common iron cores,

said iron cores being arranged around said mold such that a direction of the magnetic fields produced by said coils is aligned with a transverse width of said mold, wherein,

said single-phase AC current is supplied from a single-phase AC current power supply connected to each coil, and

said single-phase AC current power supply is capable of providing only single-phase AC current.

5. (original) The apparatus according to claim 4, wherein magnetic poles of said iron core are arranged in at least one pair to face each other above or/and below an ejection port of an immersion.

6-14. (canceled).

15. (currently amended) The apparatus according to claim 1, wherein said single-phase AC current power supply ~~supplies~~ is capable of providing only single-phase AC current.

16. (cancelled).

17. (currently amended) The apparatus according to claim 1, wherein each pair of adjacent coils for single-phase AC current on the same side of the mold have phase differences of either  $0^\circ$  or  ~~$180^\circ$~~ .

18. (currently amended) The apparatus according to claim 4, wherein each pair of adjacent coils for single-phase AC current on the same side of the mold have phase differences of either  $0^\circ$  or  $180^\circ$ .

19. (previously presented) The apparatus according to claim 1, wherein each pair of adjacent coils for single-phase AC current on the same side of the mold have phase differences of  $180^\circ$ .

20. (previously presented) The apparatus according to claim 4, wherein each pair of adjacent coils for single-phase AC current on the same side of the mold have phase differences of  $180^{\circ}$ .

21. (new) An apparatus for continuous casting of molten metals, the molten metal being continuously cast using a casting mold, said apparatus comprising:

a first row of electromagnets arranged along a longitudinal width of a casting mold, each electromagnet comprising an iron core and a coil wound over said iron core;

a second row of electromagnets arranged along the longitudinal width of said casting mold in a facing relation with the first row of electro magnets on opposites sides of said mold along a transverse width of said mold. each electromagnet of said second row comprising an iron core and a coil wound over said iron core; and

a single-phase AC current power supply connected to the coils of said first and second rows of electromagnets so that an AC current supplied to each coil of the first and second rows of electromagnets has a phase difference of  $0^{\circ}$  or  $180^{\circ}$  to the AC current supplied to an immediately adjacent coil.